	Application No.	Applicant(s)
Notice of Allowability	09/770,358	THUSOO ET AL.
	Examiner	Art Unit	
	Baoquoc N. To	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *07/21/2005*.

2. ☒ The allowed claim(s) is/are *1-36*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 07/21/2005

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *09/27/2005* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

JEAN M. CORRIELUS
PRIMARY EXAMINER

DETAILED ACTION

1.   Claims 1, 5, 9, 17, 21, 25, 29 are amended and claims 33-36 are inadvertently

left out in the previous response in the amendment filed on 07/21/2005. Claims 33-36

are newly added. Claims 1-36 are pending in this application.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Gerald Chan Reg. No. 51,541 on 09/20/2005.

Please amend claims 1, 5, 9, 13, 17, 21, 25 and 29 and insert new claims 33-36

as follows:

1.   (Currently Amended) A computer-implemented method for applying a row from a
source table to a destination table, the method comprising:
        selecting a first column from a source table;
        selecting a second column from a destination table;
        performing an outer join operation on the source table and the destination table
using the first and second columns, the outer join designating the source table as being
preserved;
        updating each row in the destination table with a row from the results of the outer
join operation containing a matching element in the first and second columns; and
        inserting into the destination table each row from the results of the outer join
operation with a non-matching element in the first and second columns,
        the method performing no more than one scan per table.

5.   (Currently Amended) A statement ~~to insert~~ implementing a computer-implemented process for inserting a new row or ~~update~~ updating an existing row in a database table, the ~~statement implementing a~~ process comprising the steps of:

selecting from a source table a first column comprising a plurality of elements;

selecting from a destination table a second column comprising a plurality of elements;

determining a set of matching rows based upon the success of a comparison operation on an element in the first column and an element in the second column;

determining a set of non-matching rows based upon the failure of a comparison operation on the first column element and the second column element;

updating the destination table with the set of matching rows; and

inserting into the destination table the set of non-matching rows,

the statement performing no more than one scan per table.

9.   (Currently Amended) A computer-implemented method for upserting a source table with a destination table, the method comprising:

selecting from a source table a first column comprising a plurality of elements;

selecting from a destination table a second column comprising a plurality of elements;

updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and

inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table,

the method using no more than one query language statement.

13.   (Currently Amended) A computer implemented method for aggregating data in a database, comprising:

parsing from a single command line, a command, a source table, a destination table, a source key, and a destination key;

comparing the source key in each row of the source table with the destination key in each row of the destination table;

determining a set of update rows based upon the success of a comparison operation performed on the source key and the destination key;

determining a set of insert rows based upon the failure of a comparison operation performed on the source key and the destination key;

updating the destination table with the set of update rows; and

inserting into the destination table the set of insert rows;

<u>wherein no more than one command line is parsed</u>.

17.   (Currently Amended) A computer program product ~~that includes~~ <u>including</u> a medium usable by a processor, the medium having stored thereon a sequence of instructions ~~which~~, <u>wherein</u> when <u>the sequence of instructions is</u> executed by the processor, ~~causes~~ the processor ~~to execute~~ <u>executes</u> a process for applying a row from a source table to a destination table, the process comprising:

selecting a first column from a source table;

selecting a second column from a destination table;

performing an outer join operation on the source table and the destination table using the first and second columns, the outer join designating the source table as being preserved;

updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns; and

inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns;

the process performing no more than one scan per table.

21.   (Currently Amended) A computer program product ~~that includes~~ including a
medium usable by a processor, the medium having stored thereon a sequence of
instructions ~~which~~, wherein when the sequence of instructions is executed by the
processor, ~~causes~~ the processor ~~to execute~~ executes a process for inserting a new row
or updating an existing row in a database table using no more then one query language
statement, the process comprising:

      selecting from a source table a first column comprising a plurality of elements;

      selecting from a destination table a second column comprising a plurality of
elements;

      determining a set of matching rows based upon the success of a comparison
operation on an element in the first column and an element in the second column;

      determining a set of non-matching rows based upon the failure of a comparison
operation on the first column element and the second column element;

      updating the destination table with the set of matching rows; and

      inserting into the destination table the set of non-matching rows,

      the no more than one query language statement performing no more ~~that~~ than
one scan per table.

25.   (Currently Amended) A computer program product ~~that includes~~ including a
medium usable by a processor, the medium having stored thereon a sequence of
instructions ~~which~~, wherein when the sequence of instructions is executed by the
processor, ~~causes~~ the processor ~~to execute~~ executes a process for upserting a source
table with a destination table, the process comprising:

      selecting from a source table a first column comprising a plurality of elements;

      selecting from a destination table a second column comprising a plurality of
elements;

      updating a row in the destination table with a row from the source table upon the
success of a comparison operation on an element in the first column of the row from the

source table and an element in the second column of the row from the destination table; and

inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table,

the process using no more than one query language statement.

29.   (Currently Amended) A computer program product that includes including a medium usable by a processor, the medium having stored thereon a sequence of instructions which, wherein when the sequence of instructions is executed by the processor, causes the processor to execute executes a process for aggregating data in a database, the process comprising:

parsing from a single command line, a command, a source table, a destination table, a source key, and a destination key;

comparing the source key in each row of the source table with the destination key in each row of the destination table;

determining a set of update rows based upon the success of a comparison operation performed on the source key and the destination key;

determining a set of insert rows based upon the failure of a comparison operation performed on the source key and the destination key;

updating the destination table with the set of update rows; and

inserting into the destination table the set of insert rows;

wherein no more than one command line is parsed.

33.   (New) A computer-implemented system for upserting a source table with a destination table, the system comprising:

logic for selecting from a source table a first column comprising a plurality of elements;

logic for selecting from a destination table a second column comprising a plurality of elements;

logic for updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and

logic for inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table,

the system using no more than one query language statement.

34. (New) The system of claim 33 further comprising:

logic for combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column.

35. (New) The system of claim 34 wherein the logic for combining the rows in the source table comprises:

logic for sorting the rows in the source table based on the element in the first column;

logic for creating a group of rows, wherein each row in the group of rows contains a matching element in the first column; and

combining the group of rows into a single row.

36. (New) The system of claim 33 wherein the comparison operation uses an equal comparison operator.

Allowable Subject Matter

3. Claims 1-36 are allowed over prior art made of record.

As to claim 1, none of the prior art alone or incombination either teach or suggest "performing an outer join operation on the source table and the destination table using the first and second columns, the outer join designating the source table as being preserved;

updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns; and

inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns, the method performing no more than one scan per table" in conjunction with selecting a first column from a source table; selecting a second column from a destination table."

Claims 2-4 are depended on claims 1; therefore, they are allowed under the same reason.

Claim 5 is a statement implementing a computer-implemented process for inserting a new row and updating an existing row in the database which shares the same scope of claim 1; therefore, it is allowed under the same reason.

Claims 6-8 are depended on claim 5; therefore, they are allowed under the same reason as to claim 5.

Claims 9 is a computer-implemented method for upserting a source table with a destination table, the recited method shares the same scope with claim 1; therefore, it is allowed under the same reason as to claim 1.

Claims 10-12 are depended on claim 9; therefore, they are allowed under the same reason as to claim 9.

Claim 13 is a computer implemented method for aggregating data in a database, the recited method shares the same scope with claim 1; therefore, it is allowed under the same reason as to claim 1.

Claims 14-16 are depended on claim 13; therefore, they are allowed under the same reason as to claim 13.

Claim 17 is the computer program product for performing the method recited in claim 1; therefore, it is allowed under the same reason as to claim 1.

Claims 18-20 are depended on claim 17; therefore, they are allowed under the same reason as to claim 17.

Claim 21 is a computer program product for perform the method recited in claim 5, therefore, it is allowed under the same reason as to claim 5.

Claims 22-24 are depended on claim 21; therefore, they are allowed under the same reason as to claim 21.

Claim 25 is a computer program product for performing the method recited in claim 9; therefore, it is allowed under the same reason as to claim 9.

Claims 26-28 are depended on claim 25; therefore, they are allowed under the same reason as to claim 25.

Claim 29 is a computer program product to perform the method recited in claim 13; therefore, it is allowed under the same reason as to claim 13.

Claims 30-32 are depended on claim 29; therefore, they are allowed under the same reason as to claim 29.

Claims 33 is the computer-implemented system to perform the method recited in claim 9; therefore, claim 33 is allowed under the same reason as to claim 9.

Claims 34-36 are depended on claim 33; therefore, they are allowed under the same reason as to claim 33.

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

NPL:

Ravi Kanth et al. Improved concurrency control techniques for multi-dimensional index structure, Parallel Processing Symposium, 04/03/1998, pages 800-809.

Amer-Yahia et al. A declarative approach to optimize bulk loading into databases, ACM Transactions on Database System. page 233-281, 2004.

Contact Information

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-

4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) –273-8300   [Official Communication]

BQ To

Sept 30, 2005

JEAN M. CORRIELUS
PRIMARY EXAMINER